

IN THE CLAIMS:

Please amend Claim 1 to read as follows. A marked-up version of Claim 1, showing the changes made thereto, is attached. All of the pending claims, including those that are not amended herein, are set forth for the Examiner's convenience.

[Handwritten signature]

1. (Twice Amended) A recording method comprising:
a step of ejecting onto a recording material ink having a Ka value of a first value; and
a step of applying to the ink deposited on the recording material, a processing liquid
having a Ka value of a second value larger than the first value to insolubilize a coloring material
in the ink inside the recording medium,

wherein the processing liquid is applied to the ink after a rapid swell start point ts passes
after penetration of the ink into the medium.

2. (Not Amended Herein) A recording method comprising the steps of:
ejecting onto a recording material ink having a Ka value not less than 1 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$);
then

applying heat to the ink; and
applying to the ink a processing liquid having a Ka value not less than 1
($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$).

3. (Not Amended Herein) A recording method comprising the steps of:
ejecting to a recording material ink having a Ka value not more than 1 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$)
and having a penetration property that increases with heat; then

applying heat to the ink; and

applying to the ink a processing liquid having a Ka value not less than 1 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$).

4. (Not Amended Herein) An apparatus according to Claim 1 or 3, further comprising the step of applying heat to a reaction product of the ink and the processing liquid after said processing liquid applying step.

5. (Not Amended Herein) A recording method according to Claim 4, wherein the Ka value is not more than 5 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$).

6. (Not Amended Herein) A method according to Claim 1 or 5, wherein the ink contain pigment.

7. (Not Amended Herein) A method according to Claim 1 or 6, wherein the ink includes a black ink and a color ink, wherein ink having a Ka value of not more than 3 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$) is the black ink, and after application of the processing liquid, color ink is deposited.

8. (Not Amended Herein) A recording method comprising the steps of:
depositing ink containing a coloring material having a polarity onto a recording material;
and then
applying to the ink, a processing liquid having a polarity opposite from that of said coloring material after a rapid swell start point is after penetration of the ink onto the recording

material, so that the coloring material in the ink is insolubilized by the processing liquid at least inside the recording material.

9. (Not Amended Herein) A method according to Claim 1 or 8, wherein the ink and the processing liquid are ejected to the recording material by generating a bubble by application of thermal energy to the ink and to the processing liquid.

10. (Not Amended Herein) A recording apparatus comprising:
ink ejecting portion for ejecting onto a recording material ink having a Ka value of not more than 3 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$);
a processing-liquid ejecting portion for applying to the ink deposited on the recording material, a processing liquid having a Ka value of not less than 5 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$) to insolubilize a coloring material in the ink inside the recording material,
wherein the processing liquid is applied to the ink after the ink is deposited on the recording material after a rapid swell start point ts passes after penetration of the ink into the medium.


Please add Claims 11-16 as follows:

--11. (New) A recording method according to Claim 1, wherein the Ka of the processing liquid is not less than 5 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$).


12. (New) A recording method according to Claim 11, wherein the Ka of the ink is not more than 3 ($\text{ml.m}^{-2}.\text{msec}^{-\frac{1}{2}}$).

D.J. Barta
J.S. 437900

13. (New) A recording method according to Claim 11, wherein the Ka of the ink is not more than 1 ($\text{ml.m}^{-2}.\text{msec}^{-1/2}$).

14. (New) A recording method according to Claim 1, wherein the ink has a first polarity and the processing liquid has a second polarity opposite from the first polarity.

15. (New) A recording method according to Claim 1, wherein a concentration of a surface-active agent in the processing liquid is not less than the critical micelle concentration of the surface-active agent in pure water.

16. (New) A recording method according to Claim 1 or 15, wherein a concentration of a surface-active agent in the ink is less than the critical micelle concentration of the surface-active agent in pure water.--

REMARKS

Response to Restriction Requirement

In response to the Restriction Requirement set forth in the Office Action dated March 26, 2002, Applicants provisionally elect, with traverse, Group I (Claims 1-9), drawn to a recording method, classified in class 477, subclass 105 and Species A drawn to a recording method comprising the steps of (1) ejecting onto a recording material ink having a Ka value of not more than $3 \text{ ml/m}^2 \text{ msec}^{-1/2}$ and (2) applying a processing liquid thereto having a Ka value of not less than $5 \text{ ml/m}^2 \text{ msec}^{-1/2}$ (Claims 1, 4, 6, 7 and 9).